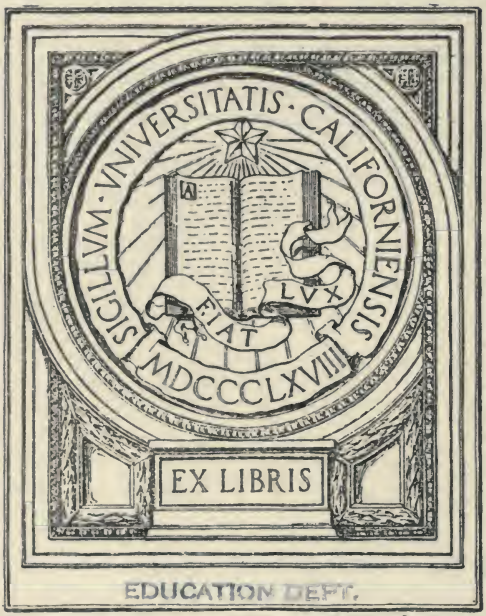
dept of education



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IV. HIGH-SCHOOL AGRICULTURE WITHOUT STATE SUBSIDY

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The public schools of America were created as institutions through which the state could protect itself, and insure its perpetuity by affording means for training the child-mind and thus making each individual more and more intelligent and more and more capable of self-government. In the earlier stages of our history any training beyond the rudiments was not possible in public institutions. Practically all advanced training was secured through the private school, academy, seminary, or college.

As time passed by, these private institutions either passed away because of lack of support or were transformed into preparatory institutions for still more advanced training to be received in a university. When this condition became apparent, the people, realizing the need of opportunities for broader training than the common schools of that time afforded, created the "union" school, which later became the modern high school. The high school was authorized by law, and its support made obligatory upon the people in the interests of broader education.

The term "broader education" in this instance meant instruction in the classics, languages, literature, mathematics, and science, and these subjects constitute the traditional course of study, the pursuance of which is supposed to result in education. Various definitions of *education* have been given in the past, and probably no single school has ever measured up to any one definition. If education is to "fit for complete living," or if it is to give one power, we must admit in the first instance that the high-school graduate is not fitted for life, and in the second instance if he has power it is only in the "potential" form.

In order to give the product of the public school real power, or active power, the work of the schoolroom must be attached to the activities of human life through the introduction of such courses as will enable the student, in the process of his training, to apply principles to the actual solution of some of life's problems. In other words, vocational courses will afford an opportunity for such application, and at the same time

enable the student to discover his own aptitudes and develop a real purpose in life before he leaves the public school.

The traditional course of study, as noted above, need not be discarded; in fact, it must not be discarded, but it may be modified. Without any doubt we are spending altogether too much time upon some subjects and in so doing we have excluded others which might become even more valuable than the usual subjects.

During the past fifty years we have been experiencing a period of educational development through successive transitions from one theory of education to another, and in this period of development in educational needs the world of commerce and industry has moved forward by rapid strides. For many years the great struggle in the business world has concerned itself with securing the largest possible utilization of natural resources, and at the same time the highest degree of efficiency. In order to assist in this movement the business world has called upon the educational institutions for extensive researches into the mysteries of natural forces. Scientific schools and universities have been taxed to their limits to meet this demand.

The establishment of colleges of agriculture and mechanic arts grew out of a realizing sense on the part of a few far-sighted business men that the forces of Nature were not being utilized to their limit, and also that we were in great danger of severe losses because the unwise use of these forces was producing deterioration in them. Soil which had once produced profusely was found to be practically worthless. The mineral resources of mother Nature were being exhausted and some means must be provided by which these losses could be made good. It is the special province, then, of our technical institutions to give such training to the human mind as will enable it to utilize wisely natural forces and prevent waste.

It is not the province of this paper to discuss the work of higher institutions of learning, and we therefore proceed to discuss the relation of the high school, this modern institution the doors of which are open to all classes of people, to the great problem of the use and conservation of natural resources.

The high school has been called the "people's college," which statement contains more or less of truth. The work done in this school includes what we call in this country "secondary education." The course of study covers a period of four years which is based upon the completion of the so-called "elementary branches."

The children enter the high school on the average at fourteen years of age, in the midst of the adolescent period. The process of man-making is going on, and for this reason the high-school period has been called the "formative period." The child enters the school generally with no fixed ideas of his future, and with little knowledge of his own personal aptitudes, largely because of the character of his previous training, or lack of training. If it is true that the period from fourteen to eighteen years is the formative period, then it would seem perfectly logical that during such time he should be introduced to the activities of human life; and his true development would consist in relating his knowledge of literature, mathematics, science, and art to the activities in which men and women engage. Probably the greatest function of the high school is to open the door of opportunity before boys and girls and give them somewhat of a vision of their own possibilities.

We have passed the point in educational history when it is particularly necessary to present arguments and reasons why agriculture and other vocational subjects should be taught. It has become perfectly clear that if there is good ground why agriculture should be taught in a collegiate institution there are equally good grounds for its being taught in a secondary institution.

The purpose of this paper is largely to describe what has already been done in agricultural education in those states which do not grant a special subsidy to individual schools for the introduction of such courses. There are various plans of operation, and we must remember that we are at the very beginning of agricultural education so far as it relates to secondary schools. Courses of study have not been thoroughly organized and we have not had time to judge of actual results. We have simply gone far enough to demonstrate the feasibility and the advisability of introducing a course of some kind in agriculture. We shall deal largely with conditions as they exist at the present time in the states of Illinois, Indiana, Michigan, Nebraska, and Ohio, these states not having as yet authorized state subsidy for any special courses in the public schools.

Illinois

In answer to certain inquiries, State Superintendent Blair gives the following information:

"We have no laws requiring the teaching of agriculture in public schools. Something in the way of nature-study and the elements of agriculture has been

attempted in probably 2,000 out of the 11,000 rural schools. We have in this state several kinds of public high schools known as the 'village high school,' the 'city high school,' and the 'township high school,' and we have several hundred such schools. Out of this number probably 25 are presenting some work in agriculture.

"Thus far the teaching of agriculture has been a growing sentiment rather than an accomplished fact. Some county superintendents and able country teachers are making strong efforts to give the children of the country the benefit of such instruction. A few of the schools have seriously taken hold of the matter, and offer as good a course in this subject as in any other of the high-school subjects. We have no special secondary schools of agriculture in this state."

INDIANA

State Superintendent Greathouse writes:

"The teaching of agriculture in the public schools in this state is not required by law. It is encouraged and is taught in probably 2,500 elementary schools and 200 high schools. Teachers are not required to pass an examination in this subject, and in many places the work is not well done. There are no special schools of agriculture of secondary grade in this state."

NEBRASKA

State Superintendent Bishop, writes:

"Some instruction in agriculture is probably given in one-eighth of the rural schools, and in 108 public high schools. The subject of agriculture is presented in the ninth or tenth grades, and consists of a one-year course similar to a course in botany or any other subject which continues through one year, and is presented by means of a textbook. Nebraska has two special schools of agriculture of secondary grade, one recently established."

OHIO

State Superintendent Miller writes:

"Agriculture is taught in all township and village districts. The Board of Education determines in what year or years the course shall be given. At the present time in nearly all of the schools the instruction consists of a one-year course in the ninth or tenth grade, based upon a textbook."

MICHIGAN

In Michigan there is no law requiring the teaching of agriculture in any public school. Some definite instruction is being given in about 800 of the 6,500 rural schools, and regular courses in agriculture have been introduced in 15 high schools. These courses consist of one unit in each of the four high-

school grades, and the work is planned so as to develop a department of agriculture along the same lines that we develop departmental work in other subjects. In addition to these schools there are about 20 others which are giving some instruction in agriculture at some time during the high-school course, mainly by the use of an elementary textbook. In addition to these we have two special county schools of agriculture. These schools are in part supported by the state and are not germane to this discussion.

The subject of agriculture in the 15 high schools is taught in each case by a graduate of an agricultural college; and in several of the other schools where supplemental courses are given the instructors have had some special training in the subject of agriculture. The course of study covers the following subjects: Agricultural botany, horticulture and entomology, farm crops, the types of live stock, breeding and feeding live stock, dairying, soils, and farm management.

It will be seen from the foregoing statements that so far as secondary agriculture in public schools is concerned, we have hardly gone far enough to draw any definite conclusions. Enough has been done, however, to demonstrate certain things. Among these it has been clearly shown in each state that there is an interest on the part of the people in agriculture as a subject of study; second, that agriculture correlates nicely with other science subjects; third, that we can develop intellectual power through it; fourth, that the lives of many young men are redirected and turned toward agriculture; fifth, that practical results in farming processes in the community are secured.

It is true that for years the farmers have berated the agricultural colleges, and have ridiculed the idea of learning practical agriculture in a school. But the quiet and effective work of the agricultural colleges and high schools has demonstrated beyond question the possibility of developing a farmer of expert type through the process of school education, and public sentiment is now rapidly swinging around in favor of collegiate agricultural instruction, and the same sentiment is being rapidly converged toward the public school. In many communities we find an insistent demand on the part of the farmers that agriculture shall be taught in public schools. Thus far, as Superintendent Blair indicates, the introduction of agriculture into the public school has been accomplished through the state department of education, the county superintendent of schools, and special men representing agricultural colleges. These men have presented the matter to local superintendents and boards of education by showing the opportunities for practical work,

and the necessity of vocational instruction. Through these agencies the public interest has been aroused. In this connection we should mention, also, the assistance which has been rendered in many cases by progressive farmers who were members of the Grange or farmers' club, or some other farmers' organization.

The people are manifesting an intense interest, and yet they are not demanding, in the foregoing states at least, that this new feature of educational work shall be rushed into the public schools without due consideration, or without the best possible previous organization and classification.

In all of these states, boards of education have authority to introduce any subject into the course of study which, in their judgment, is deemed of educational value. There is no need, therefore, for any permissive legislation; and the introduction of the work depends entirely upon the active interest of the school authorities.

It is a matter of common knowledge that if the state or the nation offers any special financial inducement to perform any public improvement, the people respond quickly because of the natural desire to get their hands into the public treasury. Proof of this is shown wherever state aid is offered for the building of good roads, canals, drainage, or any other improvement. It necessarily follows that if the state should offer a certain sum of money to be given to any school district which would introduce a course of agriculture, that such district would make strenuous effort to comply with such a law in order to secure the money. The effect, therefore, of state subsidy will be to stimulate the introduction of agricultural courses.

At the present time all vocational courses are new, and thus far lack development, coherence, and organization; and state educational institutions have given no particular attention to the training of teachers for this particular phase of work. Agricultural colleges have confined their efforts to instruction in purely technical lines, and have not given the instruction from the standpoint of teaching, or with even a "pedagogical squint." For this reason there are very few persons who are really fitted to undertake instruction in secondary agriculture. As has been stated before, the student is in the formative period, and an error of judgment on the part of the teacher, or an error in the presentation or organization of the work, may bring disastrous results to the individual student in the end.

In spite of all these facts, however, if the state offers the subsidy, the school district, the teacher, and all other interested parties are at once combined to introduce the course. With few exceptions the instruction in the one-year courses of agriculture is given by a teacher who has had no special preparation for the work, and thus has no power to enlarge upon the elementary text which the student uses. In Michigan, in all of the high schools where regular courses are presented instructors have been secured who are graduates of an agricultural college, and in addition have had special courses in general pedagogy and agricultural pedagogy.

It would seem, therefore, a wiser policy to introduce agricultural courses slowly and with trained teachers in charge, having back of the work a public sentiment which is being properly organized, and which will become permanent, rather than to rush into the work at the speed which would, without any doubt, follow the offering of state subsidy. It is difficult for any movement to travel very far in advance of supporting public sentiment. It seems to us that public sentiment, where state aid is offered, would be more largely based upon the desire to secure such funds, than upon a real interest and desire for the development of agricultural instruction. Up to the present time my observation leads me to the conclusion that while state aid would, without any doubt, stimulate the introduction of these courses, there is great danger of overstimulation, with a corresponding danger of poor results.

At this stage in the progress of industrial education it seems that it would be wise public policy for the several state institutions to give special attention to the preparation of vocational teachers. The agricultural college will thus find a new field of work, and a field through which it can ultimately reach all sections of the state and influence them effectively and at the same time conservatively. In my opinion a one-year course in any vocational subject is not sufficient; and further, it is my opinion that every vocational subject should be taught by a specially trained teacher. I do not believe it wise public policy to introduce such courses and then leave the instruction to one who has merely received training in the traditional subjects.

Further, if agriculture is to be successfully presented, sufficient time must be given to each of the great fields, or subjects, to develop some definite results in the student. We are giving three years to mathematics, four years to science, and at least an equal amount of time must be given to the subject of agriculture in order to give it a proper standing

in the regular curriculum. This fact alone will impress the student with the importance of the subject.

The intellectual element has always been dominant in education; and while we may give physical, moral, intellectual, and industrial instruction—and in my judgment all these courses should be given—still, in the work of public education the intellectual element must continually be dominant. We are not introducing courses in agriculture merely in order to turn out trained farmers, but we are introducing these courses in order that the student may relate general science to agricultural science, and leave the school with an intelligent knowledge of the application of the scientific principles, and with a vision of what he can do in the application of those principles in actual farm activities. In other words, we seek to dignify the subject of agriculture by making it a subject of study, and to impress upon the student the fact that while much has been said about the dignity of labor, there is absolutely no dignity connected with any labor which does not evolve a finished product. That is to say, the farmer who can produce perfect corn, or perfect sheep, or perfect clover is no longer a mere farmer; he is now a professional man because of the perfection of his product, and there attaches real dignity to the process of evolution. What the country needs is intelligent farmers, professional farmers, or men who are artists in their line.

If we are to secure these results we must take time to develop a course of study which shall be logical in its arrangement, contain proper subject-matter, and be presented to the student by an intelligently trained teacher.

It is not the purpose of this paper to discuss the merits of courses now being presented. As a matter of fact, there are about two hundred schools in the state of Ohio in which a course in agriculture is presented in one year of the high school, usually the tenth grade; and as stated above, there are something over one hundred high schools in the state of Nebraska presenting a similar course, and about two hundred in the state of Indiana. For the most part these courses are presented by teachers who have not received special training; yet the fact that the student actually does study agriculture, actually reads the bulletins and pamphlets from his state college of agriculture, as well as from the national department of agriculture, must prove of immense benefit to him. The value of these courses we cannot determine. We are satis-

fied that they do contain valuable educational elements; that they result in a higher degree of intellectual training, and afford opportunity for the application of the general principles of science which the student receives through his courses in botany, physics, and chemistry.

In Michigan we are attempting to develop a course in agriculture which shall constitute four units. The average high school presents fifteen- or sixteen-unit courses, and a fair balancing of the courses, in our judgment, would require four units of cultural work, eight units of disciplinary work, and three or four units of vocational work. The vocational instruction may include courses in agriculture, home economics, art, and trade courses, each elective. This plan is being pursued in two of the city schools in Michigan, and thus far is producing excellent results. In this way we develop industrial departments in the high school and attach the school to some of the chief activities of common life, and in the process of instruction during the four years of the high school, as the student comes in contact with ordinary scholastic material and with manual operations which require intelligence, we give time for the development of aptitude, knowledge, and skill.

The introduction of industrial departments in the high school will place such instruction before practically all of the young people of any county or community, and also reach the people of an entire state. At the same time we make use of educational facilities already organized, and thus render unnecessary the creation of new or special departments for agricultural or industrial instruction.

These seem to be the facts and conditions as they exist at the present time. After public sentiment has once been aroused, and the school authorities have developed a reasonable and workable course of study, it would seem then perfectly proper for the state to offer its aid in the support of vocational courses.